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DONITA KONRAD
Name
Registration No (if applicable)
Donita Konrad
Signature
NOV. 15, 2004
Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	10/051,724
Applicant(s)	:	Isao Noda et al.
Filed	:	January 17, 2002
U.S. Patent No.	:	6,808,795 B2
Issued	:	Oct. 26, 2004
Title	:	Polyhydroxyalkanoate Copolymer And Polylactic Acid Polymer Compositions For Laminates And Films
TC/A.U.	:	1711
Examiner	:	Samuel A. Acquah
Conf. No.	:	8627
Docket No.	:	8840
Customer No.	:	27752

REQUEST FOR CERTIFICATE OF CORRECTION
UNDER 37 C.F.R. 1.322

ATTN: Certificate of Correction Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

It is requested that the attached Certificate of Correction be issued under 37 CFR 1.322 for the above-identified patent. The mistakes are apparently due to Patent Office printing errors.

Column 6, line 61

Please delete "theological" and insert therefor -- rheological --. The correct version appears on page 8, the last line of paragraph 29, of the specification as originally filed.

Column 14

At line 51, please delete "3-hydroxylhexanoate" and insert therefor -- 3-hydroxyhexanoate --. The correct version appears on page 18, third line of paragraph 71, of the specification as originally filed.

At line 67, please delete "polylhydroxyalkanoate" and insert therefor -- polyhydroxyalkanoate --. The correct version appears on page 18, second line of paragraph 72, of the specification as originally filed.

Column 18

At line 24, please delete "not" and insert therefor -- with --. The correct version appears in Applicants' amendment filed April 21, 2004, a copy of which is attached hereto.

At line 44, after "or", insert -- from --. The correct version appears in Applicants' amendment filed April 21, 2004, a copy of which is attached hereto.

Correction of these mistakes is believed necessary to avoid ambiguity with respect to the patentees' disclosure and claims.

Respectfully submitted,

THE PROCTER & GAMBLE COMPANY

By Angela Marie Stone
Signature

Angela Marie Stone
Typed or Printed Name
Registration No. 41,335
(513) 634-9397

November 15, 2004
Customer No. 27752
(Certcovr.doc)
(Last Revised 11/5/2004)

Auto-Reply Facsimile Transmission

TO: Fax Sender at 513 634 6108

Fax Information
Date Received: 4/21/2004 2:47:36 PM [Eastern Daylight Time]
Total Pages: 10 (including cover page)

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513 634 6108 01:50:05 p.m. 04-21-2004 1 /10

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CERTIFICATE OF TRANSMISSION UNDER 37 CFR 1.8

TO: Examiner Samuel A. Acquah - Group Art Unit 1711 - U.S.P.T.O

Fax No. 703-872-9306 Phone No. 703-308-2436

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office on APRIL 21, 2004 to the above-identified facsimile number.

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FROM: Donita Konrad (Typed or printed name of person signing Certificate)

Fax No 513-634-6108 Phone No. 513-634-6298

Listed below are the item(s) being submitted with this Certificate of Transmission:

Number of Pages including this Page: 10

1) Amendment After Final Office Action (9 pgs.)
2)
3)
4)
5)

Inventor(s): Noda et al.
S.N.: 10/051,724
Filed: January 17, 2002
Case: 8840

Comments:

PAGE 1/10 * RCVD AT 4/21/2004 2:47:36 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/9 * DNIS:8729306 * CSID:513 634 6108 * DURATION (mm-ss):02-11

2 DEC 2004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	10/051,724
Applicant(s)	:	Isao Noda et al.
Filed	:	January 17, 2002
Title	:	Polyhydroxyalkanoate Copolymer And Polylactic Acid Polymer Compositions For Laminates And Films
TC/A.U.	:	1711
Examiner	:	Samuel A. Acquah
Conf. No.	:	8627
Docket No.	:	8840
Customer No.	:	27752

AMENDMENT AFTER FINAL OFFICE ACTION UNDER 37 CFR §1.116

Mail Stop AF
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INTRODUCTORY REMARKS

In response to the Office Action of January 21, 2004, please amend the above-identified application as follows, consider the following remarks and reconsider the application.

Please amend the above-identified application as follows:

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 6 of this paper.

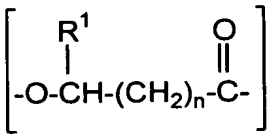
AMENDMENTS TO THE CLAIMS

1. (Currently amended) An environmentally degradable composition comprising:

a PLA polymer or copolymer; and

a polyhydroxyalkanoate copolymer comprising at least two randomly repeating monomer units

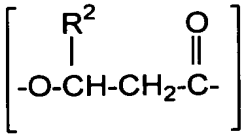
wherein a first monomer unit has structure (I)



(I)

where R^1 is H, or C1 or C2 alkyl, ~~and~~ n is 1 or 2, but with the proviso that when R^1 is a C1 alkyl, n is not 2, and where R^1 is a C2 alkyl, n is not 1; and

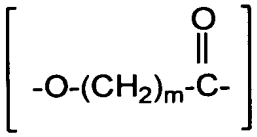
wherein a second monomer unit has structure (II)



(II)

where R^2 is a C3-C19 alkyl or C3-C19 alkenyl,

or the second monomer unit has structure (III)

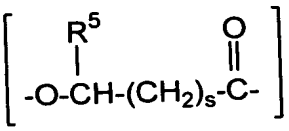


(III)

where m is from 2 to 3 or from 5 to 9

wherein the composition is in the form of a film.

2. (Original) The composition of Claim 1 wherein the polyhydroxyalkanoate copolymer comprises a third randomly repeating monomer having structure (IV):



(IV)

where R^5 is H, or C1-C19 alkyl or alkenyl, and s is 1 or 2, with the proviso that the third monomer is not the same as the first or second monomer.

3. (Original) The composition of Claim 1 further comprising a second polyhydroxyalkanoate polymer or copolymer.

4. (Original) The composition of Claim 1 wherein the polyhydroxyalkanoate copolymer is present in an amount of from 5% to 95% by weight of the film.

5. (Original) The composition of Claim 1 wherein the PLA polymer or copolymer is present in an amount of from 5% to 95% by weight of the film.

6. (Original) The composition of Claim 1 comprising a PLA polymer and wherein the PLA polymer is crystallizable polylactic acid having a melting temperature of from 160°C to 175°C.

7. (Original) A bag comprising the film of Claim 1.

8. (Original) A wrap comprising the film of Claim 1.

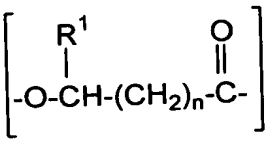
9. (Original) A multilayer laminate film wherein at least one layer comprises the composition of Claim 1.

10. (Original) The multilayer laminate film of Claim 9 wherein a second layer consists essentially of a PHA copolymer.

11. (Original) The multilayer laminate film of Claim 9 wherein a second layer consists essentially of a PLA polymer or copolymer.

12. (Currently amended) A multilayer laminate film having at least one layer which consists essentially of a PLA polymer or copolymer, and having at least one layer which consists essentially of a polyhydroxyalkanoate copolymer comprising at least two randomly repeating monomer units

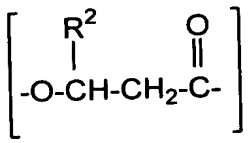
wherein a first monomer unit has structure (I)



(I)

where R^1 is H, or C1 or C2 alkyl, ~~and~~ n is 1 or 2, but with the proviso that when R^1 is a C1 alkyl, n is not 2, and where R^1 is a C2 alkyl, n is not 1; and

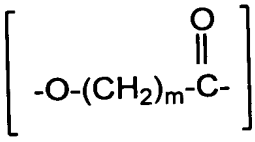
wherein a second monomer unit has structure (II)



(II)

where R^2 is a C3-C19 alkyl or C3-C19 alkenyl,

or the second monomer unit has structure (III)



(III)

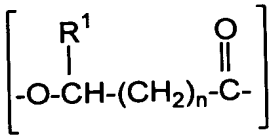
where m is from 2 to 3 or from 5 to 9.

13. (Original) The environmentally degradable composition of Claim 1 further comprising dispersed particulate filler, the composition in the form of a stretched film having continuous pores that prevent penetration of liquid and that pass moisture vapor.

14. (Original) The multilayer laminate of Claim 9 wherein the at least one layer further comprises dispersed particulate filler, the layer having been stretched to produce continuous pores that prevent penetration of liquid and that pass moisture vapor.

15. (Currently amended) An environmentally degradable breathable film comprising:

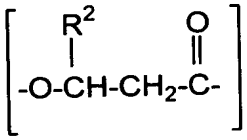
a polyhydroxyalkanoate copolymer comprising at least two randomly repeating monomer units wherein a first monomer unit has structure (I)



(I)

where R^1 is H, or C1 or C2 alkyl, ~~and~~ n is 1 or 2, but with the proviso that when R^1 is a C1 alkyl, n is not 2, and where R^1 is a C2 alkyl, n is not 1; and

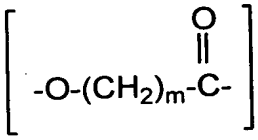
wherein a second monomer unit has structure (II)



(II)

where R^2 is a C3-C19 alkyl or C3-C19 alkenyl,

or the second monomer unit has structure (III)



(III)

where m is from 2 to 3 or from 5 to 9.

REMARKS

Applicants respectfully request reconsideration of the present application.

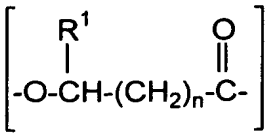
Claims 1, 12 and 15 have been amended to more particularly define the invention. No additional claims fee is believed to be due. It is believed these changes do not involve any introduction of new matter. Consequently, entry of these changes is believed to be in order and is respectfully requested.

ART REJECTIONS

Before turning to the Examiner's rejections under 35 U.S.C. §102(b) and §103(a), it may be helpful to briefly review the substance of Applicants' invention as well as the structures of the polyhydroxyalkanoate copolymers (PHAs) disclosed therein.

Applicants' claimed invention is directed to environmentally degradable films comprising a specifically recited polyhydroxyalkanoate copolymer (PHA) and a polylactic acid polymer or copolymer (PLA). Laminates having a first layer comprising the specifically recited PHA copolymer and a second layer comprising a PLA polymer or copolymer are also disclosed. Such compositions, either as blends or different components, generally provide improved material properties in comparison to the deployment of the specifically recited PHA copolymers alone or to PLA polymers or copolymers alone. Properties in which the blended materials or laminates are different and improved are any one of hardness/softness, brittleness/flexibility, tack, i.e., stickiness, toughness, ductility, processability, or opaqueness/transparency, for example. Furthermore, the PHA copolymers of the present invention can be melt processed at much lower temperatures than that of conventional PHAs such as polyhydroxybutyrate (PHB) and polyhydroxybutyrate/valerate (PHBV), and thus are less susceptible to thermal degradation during processing.

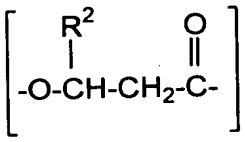
The specifically recited PHAs of the present invention are comprised of a first biodegradable polyhydroxyalkanoate **heteropolymer** comprising at least **two** randomly repeating monomer units (RRMUs). The first RRMU has the structure (I):



(I)

where, according to presently amended Claims 1, 12 and 15, "R^1 is H, or C1 or C2 alkyl, and n is 1 or 2, but with the proviso that when R^1 is a C1 alkyl, n is not 2, and where R^1 is a C2 alkyl, n is not 1." In other words, the first RRMU may be one of the following: (1) if R^1 is H and n is 1, then the first RRMU is 3-hydroxyproprionate; (2) if R^1 is H and n is 2, then the first RRMU is 4-hydroxybutyrate; (3) if R^1 is C1 and n is 1, then the first RRMU is 3-hydroxybutyrate; and if R^1 is C2 and n is 2, then the first RRMU is 4-hydroxyhexanoate. But according to presently amended Claims 1, 12 and 15, in the first RRMU: (1) R^1 cannot be C1 when n is 2, therefore **the first RRMU cannot be 4-hydroxyvalerate**; and R^1 cannot be C2 when n is 1, therefore **the first RRMU cannot be 3-hydroxyvalerate**.

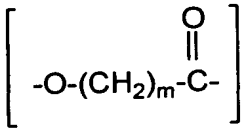
The second RRMU has the structure of at least one monomer selected from the group consisting of the structures (II) and (III). Structure (II) is disclosed as:



(II)

where R^2 is a C3-C19 alkyl or C3-C19 alkenyl. Thus **the second RRMU with structure (II) cannot be a hydroxyvalerate**, because the shortest R^2 alkyl group is C3, in which case structure (II) is 3-hydroxyhexanoate.

Structure (III) is disclosed as:



(III)

wherein, according to presently amended Claims 1, 12 and 15, m is from 2 to 3 or from 5 to 9. Thus structure (III) varies from the shortest polymer, where m is 2 or 2-hydroxyproprionate, to the longest polymer, where m is 9 or 9-hydroxydecanoate. M is not 4, therefore **structure (III) cannot be 5-hydroxyvalerate**.

Rejections Under 35 U.S.C. § 102(b) Over WO 96/08535 and JP 10147653

Claims 1-15 have been rejected under 35 U.S.C. § 102(b) as being anticipated by WO 96/08535. Claims 1, 3-6 and 15 have been rejected under 35 U.S.C. § 102(b) as being anticipated by JP 10147653. Applicants respectfully disagree with these rejections particularly in light of the present amendments to Claims 1, 12 and 15.

The Office Action states that the above identified references anticipate the claims as they stood prior to the current amendments. Specifically, the Office Action states that both WO 96/08535 and JP 10147653 disclose the polyhydroxyalkanoate copolymer polyhydroxybutyratevalerate or PHBV. In general, the valerate monomer unit of PHBV may exist in several isomeric forms including: 3-hydroxyvalerate, 4-hydroxyvalerate and 5-hydroxyvalerate. As noted in the Amendments to the Claims section, instant Claims 1, 12 and 15 have been amended to specifically exclude **any** form of hydroxyvalerate monomer from the environmentally degradable compositions comprised in part by a PHA copolymer comprising at least two randomly repeating monomer units. **Therefore, the newly amended claims specifically exclude PHA copolymers which contain PHBV**. In light of these amendments, WO 96/08535 and JP 10147653 do not anticipate Claims 1, 12 and 15 and the balance of the claims that ultimately depend therefrom. Consequently, Applicants respectfully request the withdrawal of the § 102(b) rejections.

Rejections Under 35 U.S.C. § 103(a) Over EPA 0,753,539

Claims 1-5 have been rejected under 35 U.S.C. § 103(a) as being obvious in light of EPA 0,753,539. Applicants respectfully disagree with these rejections particularly in light of the present amendments to Claim 1.

The Office Action states that the claims as they stood prior to the current amendments were obvious in light of the above identified reference for the explanations that were cited with regard to the § 102(b) rejections. As discussed above, instant Claim 1 has been amended to specifically exclude **any** form of hydroxyvalerate monomer from the environmentally degradable compositions comprised in part by a PHA copolymer comprising at least two randomly repeating monomer units. **Therefore, the newly amended Claim 1 specifically excludes PHA copolymers which contain PHBV**. In light of these amendments, Claim 1 and Claims 2-5

which depend thereon are not obvious over EPA 0,753,539 since EPA 0,753,539 does not teach or suggest all of the instant claim limitations as per MPEP § 2143.

Based on the foregoing, Applicants respectfully submit that Claims 1-5 are not obvious over EP 0,753,539 and respectfully request that the Examiner's rejection under 35 U.S.C. §103(a) be withdrawn.

CONCLUSION

In light of the above foregoing remarks, Applicants believe that Claims 1-15 are now in form for allowance. Accordingly, it is respectfully requested that the claims be reconsidered, the rejections under 35 U.S.C. §102(b) and §103(a) be withdrawn, and the claims be allowed. Should the Examiner have any questions or wish to further discuss this matter, it is requested that the undersigned agent be contacted at (513) 634-9076.

Respectfully submitted,

By _____
Julie A. McConihay
Agent for Applicants
Registration No. 55,439
(513) 634-9076

April 21, 2004
Customer No. 27752

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,808,795 B2

DATED : Oct. 26,2004

INVENTOR(S) : Noda et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 6

Line 61, delete "theological" and insert -- rheological --.

Column 14

Line 51, delete "3-hydroxylhexanoate" and insert -- 3-hydroxyhexanoate --.

Line 67, delete "polylhydroxyalkanoate" and insert -- polyhydroxyalkanoate --.

Column 18

Line 24, delete "not" and insert -- with --.

Line 44, after "or", insert -- from --.

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